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RESPONSE under 37 C.F.R. § 1.111  
U.S. Appln. No. 10/748,867

JAN 18 2007

**REMARKS:**

Claims 1-30 are all the claims pending in the present application. Claims 5, 8, 14, 18-20 and 26 are objected to and claims 1-4, 6-7, 9-13, 15-17, 21-25 and 27-30 stand rejected. Reconsideration and allowance of all pending claims are respectfully requested in view of the remarks that follow.

**ALLOWABLE SUBJECT MATTER.**

The Office Action indicates Applicant's claims 5, 8, 14 and 18-20 and 26 include allowable subject matter but are objected to as depending from rejected base/intervening claims. The Office Action indicates these claims would be allowable if rewritten in independent form to include the limitations of their base/intervening claims. Applicant kindly thanks the Examiner for the indication of allowable subject matter. However, since the rejected base/intervening claims are also believed to be patentable for the reasons discussed below, Applicant respectfully requests reconsideration of the objection.

**CLAIM REJECTIONS.**

**35 U.S.C. § 102**

Claims 1 and 7 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Published Patent Appln. 2003/0045307 to Arviv et al. (hereinafter "Arviv"). Applicant respectfully traverses this rejection for the following reasons.

It is well established that a finding of anticipation under 35 U.S.C. § 102 requires that each and every limitation of the rejected claim(s) be disclosed (expressly or inherently) by a single prior art reference. (MPEP 2131 citing *Verdegall Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987).

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The Office Action alleges that Arviv discloses all the limitations present in Applicant's independent claims 1 and 7. Applicant respectfully disagrees. Arviv discloses a wireless communication system for determining a plurality of uplink and downlink modulation schemes between a base station (BS) and customer premises equipment (CPE) such as mobile stations. (Par. [0009]). Arviv discloses that an asymmetric arrangement in which, if desired, an uplink modulation scheme (i.e., from the CPE to BS) may be set to be different than the downlink modulation scheme (i.e., from the BS to the CPE). (Par. [0009]). Arviv makes no mention of any technology or even a desire to determine the presence or location of interfering devices within its wireless system.

By way of contrast, embodiments of Applicant's invention relate specifically to *determining that a potential interferer is present in the wireless network*. (See, e.g., claim 1). Since Arviv fails to expressly or inherently teach or suggest at least this feature of Applicant's independent claim 1, Arviv cannot anticipate Applicant's claim 1 or any of Applicant's claims which depend there from. In the event the Examiner disagrees, Applicant respectfully requests that the specific passage be cited from Arviv which allegedly teaches or suggest this feature in Applicant's claims.

In fact, Applicant respectfully submits that Arviv also fails to teach or suggest *comparing adaptive modulation information for a communication channel between at least two terminals in both an uplink direction and a downlink direction to determine if a difference exists* as recited in Applicant's claim 1 (or related limitation present in Applicant's independent claim 7). While Arviv appears to disclose adaptively (asymmetrically) modulating signals in both the uplink and downlink directions based on SNR or other quality indicator (Par. [0031]), it does not appear to disclose, or have any purpose for, *comparing adaptive modulation information* or to *identify a difference between adaptive modulation information* in the uplink and downlink directions as claimed by Applicant in claims 1 and 7. Applicant respectfully points out that "comparing the uplink and downlink [quality] over time with the threshold" as alleged on page 3 of the Office

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Action, is not the same as *comparing or identifying a difference between, adaptive modulation information.*

In this regard, Arviv also fails to disclose or suggest the limitation of Applicant's claim 7 relating to *adaptively modulate a signal according to a received requested modulation order.* Because the foregoing limitations are not disclosed or suggested by Arviv, Applicant's claims 1 and 7 cannot be anticipated by Arviv and Applicant respectfully requests the Examiner to reconsider and withdraw the §102 rejection of these claims based on Arviv.

**35 U.S.C. § 103**

Claims 2-4, 6, 9-13, 15-17, 21-25 and 27-30 are rejected as being unpatentable over Arviv in view of U.S. Published Appln. 2003/0097623 to Razavilar et al. (hereinafter "Razavilar") or in view of U.S. Published Appln. 2003/0220109 to Jami et al. (hereinafter "Jami"). Applicant respectfully traverses these rejections for the following reasons.

It is well established that *prima facie* obviousness is only established when three basic criteria are met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991) (MPEP 2144).

The Office Action relies solely on Arviv to disclose Applicant's claimed features of *comparing adaptive modulation information between an uplink direction and a downlink direction to determine if a difference exists* (e.g., Applicant's independent claim 17 or related limitations present in Applicant's independent claims 1, 7, 12, 23 and 27). The secondary references of Razalilar and Jami are cited by the Office Action only to teach certain additional

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features of Applicant's claims relating to adaptive bit loading (ABL), orthogonal frequency division multiplexing (OFDM), adaptive power loading, etc.

Applicant respectfully submits that, even assuming it would be proper to combine the cited references as suggested in the Office Action (*arguendo*), none of the cited references disclose the features Applicant discusses above with respect to the 102 rejection based on Arviv. Namely none of the cited references discloses or suggests comparing adaptive modulation information (or modulation orders) in the uplink and downlink direction to determine if a difference exists as claimed in various manners in Applicant's independent claims. This is primarily because each of the cited references is dedicated to solving problems entirely different than that addressed by Applicant's inventive embodiments, i.e., to determine the presence or location of an interferer (i.e., non-network interfering devices) in a wireless network. (See, e.g., Applicant's specification par. [0016]). Thus not only do the cited references collectively or individually fail to teach or suggest comparing/a comparator to identify differences between modulation information in the uplink and downlink directions, there is no apparent reason why the skilled artisan would do so in view of these references.

Because Arviv, Razavilar and Jami, taken alone or in any combination, fail to teach or suggest all the limitations present in Applicant's independent claims 1, 7, 12, 17, 23 and 27, a *prima facie* case of obviousness under 35 U.S.C. § 103 has not been established with respect to any of Applicant's claims. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the §103 rejections of record.

**CONCLUSION.**

In view of the above, reconsideration and allowance of this application is now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below. Applicant

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hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee or deficiency thereof, except for the Issue Fee, is to be charged to **Deposit Account # 50-0221.**

Respectfully submitted,

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